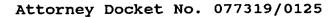
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## What Is Claimed Is:

phosphatidic acid phosphatase wherein said polynucleotide encodes a protein comprising a polypeptide sequence selected from the group consisting of (i) the sequence at amino acid number 1 to amino acid number 284 in Figure 1, (ii) the sequence at amino acid number 285 in Figure 2, and (iii) the sequence at amino acid number 1 to amino acid number 1 to amino acid number 276 in Figure 4.

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2. An isolated human phosphatidic acid phosphatase protein, wherein said protein comprises a polypeptide sequence selected from the group consisting of (i) the sequence at amino acid number 1 to amino acid number 284 in Figure 1, (ii) the sequence at amino acid number 1 to amino acid number 285 in Figure 2, and (iii) the sequence at amino acid number 1 to amino acid number 276 in Figure 4.

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3. A method of preparing a human phosphatidic acid phosphatase- $\beta$  protein comprising the steps of (i) transforming a host cell with an expression vector comprising a polynucleotide encoding human phosphatidic acid phosphatase, (ii) culturing said transformed host cells which express said protein and (iii) isolating said protein.

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polynucleotide encoding human phosphatidic acid is selected from the group consisting of (i) the sequence at amino acid number 1 to amino acid number 284 in Figure 1, (ii) the sequence at amino acid number 1 to amino acid number 1 to amino acid number 285 in Figure 2, (iii) the sequence at amino acid number 1 to amino acid number 276 in Figure 4.

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5. A method of dephosphorylating a substrate comprising contacting said substrate with an effective amount of isolated human phosphatidic acid phosphatase protein such that said protein catalyzes the dephosphorylation of said substrate.

- 6. The method of claim 5, wherein said protein comprises the polypeptide sequence at amino acid number 1 to amino acid number 284 in Figure 1.
- 7. The method of claim 5, wherein said protein comprises the polypeptide sequence at amino acid number 1 to amino acid number 285 in Figure  $\frac{(SEQIDNO.'4)}{\lambda}$
- 8. The method of claim 5, wherein said protein comprises the polypeptide sequence at amino acid number (SEGSTD NO:6)

  1 to amino acid number 311 in Figure 3.
- 9. The method of claim 5, wherein said protein comprises the polypeptide sequence at amino acid number 1 to amino acid number 276 in Figure 4,
- 10. The method of claim 5, wherein said substrate is selected from the group consisting of phosphatidic acid, lysophosphatidic acid, ceramide 1-phosphate, and sphingosine 1-phosphate.
- 11. The method of claim 5, wherein said contacting is effected in vitro, and further comprises the step of isolating said dephosphoryled substrate.
  - 12. The method of claim 5, wherein said contacting step occurs in vivo and is effected by the administration of said human phosphatidic acid phosphatase to a mammal in need thereof.

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